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A glimpse on *Staphylococcus aureus* translation machinery and its control

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Abstract

© 2016, Pleiades Publishing, Inc. *Staphylococcus aureus* is a major opportunistic and versatile pathogen. Because the bacteria rapidly evolve multi-resistances towards antibiotics, there is an urgent need to find novel targets and alternative strategies to cure bacterial infections. Here, we provide a brief overview on the knowledge acquired on *S. aureus* ribosomes, which is one of the major antibiotic targets. We will show that subtle differences exist between the translation at the initiation step of Gram-negative and Gram-positive bacteria although their ribosomes display a remarkable degree of resemblance. In addition, we will illustrate using specific examples the diversity of mechanisms controlling translation initiation in *S. aureus* that contribute to shape the expression of the virulence factors in a temporal and dynamic manner.

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Keywords

post-transcriptional regulation, quorum sensing, regulatory RNAs, *Staphylococcus aureus*